

**REMARKS**

Reconsideration of this application is respectfully requested.

Upon entry of the foregoing amendment, claims 57-58 and 63-82 are pending in the application. New claims 79, 80, 81 and 82 are added. Claim 62 is cancelled without prejudice to or disclaimer of the subject matter therein. Claims 57, 58, 69, 70, 74, 77 and 78 are amended.

Claims 59-61 have been withdrawn by the Examiner after the Examiner made the restriction requirement among the sequences final in the Office Action of February 24, 2004. Applicants have traversed this restriction requirement in Applicant's Response to Office Action Restriction Requirement of September 12, 2003.

Applicants respectfully request entry of the above amendment and submit that the above amendment does not constitute new matter.

Support for the amendments to the claims and new claims can be found throughout the specification and in the claims as originally filed. In particular, support for the amendment to claim 69 can be found, *inter alia*, in claims 69 and 70 as originally filed. Support for the amendment to claim 70 can be found, *inter alia*, in claim 70 as originally filed. Support for the amendment to claim 74 can be found, *inter alia*, in the specification at page 21, lines 13-14. Support for the amendment to claim 77 can be found, *inter alia*, in claim 77 as originally filed. Support for the amendment to claim 78 can be found, *inter alia*, in claims 75 and 78 as originally filed. Support for new claim 79 can be found, *inter alia*, in the specification at page 7, lines 16-19. Support for new claim 80 can be found, *inter alia*, in the specification at page 7, lines 22-27. Support for new claim 81 can be found, *inter alia*, in the specification at page 6, lines 12-14 and page 7, lines 11-19; 22-27. Support for new claim 82 can be found, *inter alia*, in claim 69 as originally filed.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

### **Objections to the Specification**

The Examiner objected to the disclosure of the specification on the basis that it contained an embedded hyperlink and/or other forms of browser-executable code. Applicants have amended the specification so that it no longer contains an embedded hyperlink and/or other forms of browser-executable code. Thus, the Examiner's objection to the specification on this basis has been rendered moot.

The Examiner objected to the reference in the specification claiming the benefit of an earlier filing date. Applicants have amended the section of the specification entitled, as amended, "Cross-Reference to Related Applications." This amended section contains a specific reference to the earlier-filed application of which the instant application claims benefit. In accordance with 37 C.F.R. § 1.78(a), Applicants have amended the specific reference to include an identification of the prior-filed application by application number and filing date and an indication of the specific relationship of the applications. *See* 37 C.F.R. § 1.78(a)(2)(i) (2003). The specification, as amended, indicates that the present application is a continuation-in-part of the prior-filed application, as recognized in the original filing receipt dated April 22, 2002. Thus, the Examiner's objection to the specification on this basis has been rendered moot.

### **Objection to the Title**

The Examiner objected to the title of the invention on the ground that it is not descriptive of the instant invention. Applicants have amended the title of the invention to more clearly describe the claimed invention, thereby rendering the Examiner's objection to the title moot.

### **Objection to the Abstract**

The Examiner objected to the abstract of the disclosure on the ground that it is not descriptive of the instant invention, which, according to the Examiner, is a nucleic acid encoding Cry2Ae, plants and plant cells transformed with the nucleic acid and a process for using the nucleic acid to render plants resistant to Lepidopteran pests. Applicants have amended the abstract of the invention to more clearly describe the instant invention and sufficiently assist readers in deciding whether there is a need for consulting the full patent text for details. Thus, the Examiner's objection to the abstract has been rendered moot.

### **Claim Objections**

The Examiner objected to claim 69 on the basis that it should be amended to recite "wherein the method comprises" instead of "comprising." Applicants have amended claim 69 accordingly, thereby rendering the Examiner's objection to claim 69 moot.

The Examiner objected to claims 71 and 73 on the grounds that claim 71 contains an improper article before the term "leader" in part (b) and claim 73 contains an improper article before the number "3" in line 2. Applicants respectfully disagree that claim 71 contains an improper article before the term "leader" and claim 73 contains an improper article before the number "3."

In claim 71, the article that appears before the term "leader" is "a." The only alternative article to use is "the." However, the article "the" is improper as an article in this instance because the phrase "leader sequence" in part (b) is the first instance in which the phrase "leader sequence" is used in claim 71. Furthermore, the specification describes "*a* leader sequence from the chlorophyl a/b binding protein gene from Petunia (Harpster et al., 1988)" on page 32, lines 3-4 (emphasis added). Consequently, Applicants respectfully request that the Examiner's objection to the article "a" before the term "leader" in claim 71 be withdrawn.

In claim 73, the article that appears before the number "3" is "a." The only alternative article to use is "the." However, the article "the" is improper as an article in this instance because the phrase "3' transcript termination and polyadenylation region" in line 2 is the first

instance in which the phrase “3’ transcript termination and polyadenylation region” is used in claim 73. Furthermore, the specification describes “a 3’ transcript termination and polyadenylation region of the 35S gene from Cauliflower Mosaic Virus (Sanfacon et al, 1991)” on page 32, lines 5-6 (emphasis added). Therefore, Applicants respectfully request that the Examiner’s objection to the article “a” before the term “3” in claim 73 be withdrawn.

The Examiner objected to claim 70 under 37 C.F.R. 1.75 on the basis that claim 70, according to the Examiner, is a substantial duplicate of claim 69. Applicants have amended claims 69 and 70 so that claim 70 is no longer a substantial duplicate of claim 69. In particular, claim 69, as amended, is directed to a process for rendering a plant resistant to an insect, wherein said method comprises transforming plant cells with the chimeric gene of claim 63, and regenerating transformed plants from such cells. Claim 70, as amended, is directed to the process of claim 69, wherein the insect is selected from the group consisting of *Chilo suppressalis*, *Chilo partellus*, *Scirpophaga incertulas*, *Sesamia inferens*, *Cnaphalocrocis medinalis*, *Marasmia patnalis*, *Marasmia exigua*, *Marasmia ruralis*, and *Scirpophaga innotata*. Furthermore, new claim 82 is directed to the process of claim 69, wherein the insect is selected from the group consisting of *Helicoverpa armigera*, *Anticarsia gemmatilis*, and *Sesamia nonagrioides*. Therefore, because claim 70, as amended, is not a substantial duplicate of claim 69, the Examiner’s objection to claim 70 has been rendered moot.

The Examiner objected to claims 62 and 77 for being dependent upon non-elected claims. Applicants have canceled claim 62. Thus, the Examiner’s objection to claim 62 has been rendered moot. Applicants have amended claim 77 so that it no longer depends from non-elected claims. Accordingly, the Examiner’s objection to claim 77 has been rendered moot.

#### **Rejections under 35 U.S.C. § 112, first paragraph**

The Examiner rejected claims 57, 62-74 and 76-77 under 35 U.S.C. § 112, para. 1, for failure to comply with the written description requirement. The Examiner stated that “[n]either the instant specification nor the originally filed claims appear to provide support for the phrase ‘between amino acid position 1 and amino acid position 625 to amino acid position 632’ in claim

57. Thus, such a phrase constitutes NEW MATTER.” (Paper No. 104, page 4) (emphasis in original). Applicants respectfully traverse this rejection.

As an initial matter, Applicants point out that the phrase in claim 57 to which the Examiner seems to be referring recites “from amino acid position 1 to an amino acid position between amino acid position 625 and amino acid position 632.” Furthermore, Applicants assert that the subject matter covered by this phrase and the subject matter covered by claims 57, 62-74 and 76-77 are supported by the specification. Support for the subject matter covered by this phrase and the subject matter covered by claims 57, 62-74 and 76-77 can be found, *inter alia*, in the specification on page 3, lines 13-14; page 6, lines 12-17; and page 7, lines 16-19. In particular, the specification states:

For the Cry2Ae and Cry2Af proteins of the invention, it is expected that deletions up to amino acid position 625 at the C-terminus (i.e., the C-terminal amino acid would be the amino acid at position 625) can be done while conserving the insecticidal activity . . . .

Specification, page 7, lines 16-19. Accordingly, the specification clearly provides written description for the subject matter contained in claims 57, 62-74 and 76-77. Consequently, Applicants respectfully request that the rejection under 35 U.S.C. § 112, para. 1, be withdrawn.

The Examiner rejected claims 58, 62 and 77 under 35 U.S.C. § 112, para. 1, for failure to comply with the written description requirement. The Examiner stated that “[n]either the instant specification nor the originally filed claims appear to provide support for the phrase ‘between amino acid position 1 and amino acid position 50 to amino acid position 632’ in claim 58. Thus, such a phrase constitutes NEW MATTER.” (Paper No. 104, page 5) (emphasis in original). Applicants respectfully traverse this rejection.

Applicants assert that the subject matter covered by the above phrase and the subject matter covered by claims 58, 62 and 77 are supported by the specification. Support for the subject matter covered by this phrase and the subject matter covered by claims 58, 62 and 77 can be found, *inter alia*, in the specification on page 7, lines 22-27. In particular, the specification states:

It is expected that N-terminal deletions up to around amino acid position 50, preferably N-terminal deletions up to amino acid 50 (i.e., the N-terminal amino acid would be position 50 of the sequences shown in the sequence listing) in the amino acid sequence of the three Cry2A proteins of this invention, retain most of their insecticidal activity against Lepidopteran insects.

Specification, page 7, lines 22-27. Accordingly, the specification clearly provides written description for the subject matter contained in claims 58, 62 and 77. Thus, Applicants respectfully request that the rejection under 35 U.S.C. § 112, para. 1, be withdrawn.

Moreover, Applicants submit that the specification provides written description for new claims 79 and 80. In particular, the specification provides written description for new claim 79, which is directed to DNA sequences encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 comprising one or more C-terminal deletions up to amino acid position 625. *See, e.g.*, specification, page 7, lines 16-19. The specification provides written description for new claim 80, which is directed to DNA sequences encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 comprising one or more N-terminal deletions up to about amino acid position 50. *See, e.g.*, specification, page 7, lines 22-27. In addition, the specification provides written description for new claim 81, which is directed to DNA sequences encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 comprising an N-terminal deletion up to amino acid position 50 and a C-terminal deletion up to amino acid position 625. *See, e.g.*, specification, page 6, lines 12-14 and page 7, lines 11-19; 22-27.

The Examiner rejected claims 57-58 and 62-78 under 35 U.S.C. § 112, para. 1, for failure to comply with the written description requirement. The Examiner purports:

The claims are broadly drawn to a multitude of nucleic acids that encode insecticidal Cry2Ae proteins consisting of amino acids 1 to 50-632 of SEQ ID NO:2 or that encode insecticidally effective fragments of SEQ ID NO:2. In contrast, the specification only describes a nucleic acid that encodes an insecticidal Cry2Ae protein consisting of SEQ ID NO:2. Applicant does not describe other nucleic acids encompassed by the claims, and the structural



features that distinguish all such nucleic acids from other nucleic acids are not provided.

(Paper No. 104, page 5.) Applicants respectfully traverse this rejection.

Applicants assert that the Examiner's position is contrary to the "Written Description Guidelines" issued by the U.S. Patent and Trademark Office, which specifically provide that an applicant may claim DNA generically by tying it to a specific protein sequence.

Applicants further assert that the specification provides written description for the subject matter covered by claims 57-58 and 62-78. Applicants assert, in particular, that the specification provides support for DNA molecules encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from position 1 to 625-632 and DNA molecules encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from position 1-50 to 632. As noted above, support for such subject matter can be found, *inter alia*, in the specification on page 3, lines 13-14; page 6, lines 12-17; and page 7, lines 16-19 and lines 22-27. Applicants further assert that the specification provides support for DNA molecules encoding an insecticidally-effective fragment of SEQ ID NO: 2. For example, the specification states that

[t]he smallest toxic fragment of a Cry protein of the invention, as used herein is that smallest fragment or portion of a Cry protein retaining insecticidal activity that can be obtained by enzymatic, preferably trypsin or chymotrypsin, digestion of the full length Cry protein, or that smallest fragment or portion of a Cry protein retaining insecticidal activity that can be obtained by making nucleotide deletions in the DNA encoding a Cry protein. The N- and C- terminal amino acid sequence ends of the smallest toxic fragment are conveniently determined by amino acid sequence determination of the above fragments by techniques routinely available in the art.

Specification, page 7, lines 6-14. Additionally, support for such subject matter can be found, *inter alia*, in the specification on page 14, lines 7-10 (describing the determination of toxicity of a Cry protein) and page 15, lines 13-26 (describing the preferred homologous regions of an insecticidally effective fragment of a Cry2Ae protein). Accordingly, the specification clearly provides written description for the subject matter contained in claims 57-58 and 62-78.

Consequently, Applicants respectfully request that the rejection under 35 U.S.C. § 112, para. 1, be withdrawn.

The Examiner rejected claims 57-58 and 62-78 under 35 U.S.C. § 112, para. 1, for failure to comply with the enablement requirement. The Examiner states:

The claims are broadly drawn to a multitude of nucleic acids that encode insecticidal Cry2Ae proteins consisting of amino acids 1 to 5-632 of SEQ ID NO:2 or that encode insecticidally effective fragments of SEQ ID NO:2, chimeric genes comprising them, plants and plant cells transformed with them, and methods of using them to render a plant resistant to specific lepidopteran pests. The instant specification, however, only provides discusses toxicity assays of two bacterial strains on various lepidopteran pests (examples 1-2), isolation from the strains of cry2A genes using unspecified primers and toxicity assays of the proteins (example 3) and prophetic expression of the genes in plants (example 4). SEQ ID NO: encodes the 632 amino acid long Cry2Ae protein of Seq ID NO:2.

Office Action of February 24, 2004, Paper No. 104, pages 6-7. Applicant respectfully traverses this rejection.

Applicants assert that the specification of the instant application enables one of ordinary skill in the art to make and use the subject matter covered by claims 57-58 and 62-78 without undue experimentation. However, the Examiner particularly alleges:

The specification, on pg 7, lines 22-27 teach that the first 50 amino acids of SEQ ID NO:2 do not have insecticidal activity; thus, nucleic acids encoding amino acids 1-50 of SEQ ID NO:2 could not encode an insecticidal Cry2Ae protein. The specification also teaches that little can be deleted at the C-terminus of the protein. Thus, few, if any insecticidally effective fragments of SEQ ID NO:2 or amino acids 1 to 50-632 of SEQ ID NO:2 would even exist.

(Paper No. 104, page 7.)

Applicants assert that, contrary to the Examiner's position, the specification does *not* state that the first 50 amino acids have no insecticidal activity. The specification does disclose a



protein truncated at its N-terminal end up to position 50 and teaches that such a protein is expected to retain its toxicity. The specification also teaches deletion at the C-terminus up to position 625. However, the Examiner has not shown why “few, if any insecticidally effective fragments of SEQ ID NO:2 or amino acids 1 to 50-632 would even exist.” In any case, the Examiner has not shown that one of ordinary skill in the art would not be enabled by the specification to practice the claimed invention, which includes DNA molecules encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from position 1 to 625-632 and DNA molecules encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from position 1-50 to 632. Furthermore, disclosure enabling one of ordinary skill in the art to transform plant cells with an insecticidally effective fragment of the *cry* gene can be found, *inter alia*, on pages 19-22 of the specification. Accordingly, the specification clearly provides an enabling disclosure for claims 57-58 and 62-78. Consequently, Applicants respectfully request that the rejection under 35 U.S.C. § 112, para. 1, be withdrawn.

**Rejections under 35 U.S.C. § 112, second paragraph**

The Examiner rejected claims 62, 64, 66, 68 and 71-78 under 35 U.S.C. § 112, para. 2, as being indefinite for failure to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

Claim 62 has been canceled. Thus, the Examiner’s rejection of claim 62 has been rendered moot.

Regarding claim 64, the Examiner states that “it is unclear in claim 64 where the DNA encoding a targeting or transit peptide is located relative to the DNA sequence and the promoter.” (Paper No. 104, page 8.) Applicants respectfully traverse this rejection. It is common knowledge of one of ordinary skill in the art that a transit peptide is placed upstream of the coding sequence. Thus, Applicants respectfully request that this rejection of claim 64 under 35 U.S.C. § 112, para. 2, be withdrawn.

Regarding claim 71, the Examiner states that “it is unclear in claim 71 if the components in parts (a)-(c) are present in any order, or in operable linkage.” (Paper No. 104, page 8.) The Examiner further alleges that “[c]laim 71, part (a) is indefinite in its recitation of ‘derived.’ It is unclear how the promoters differ from the native promoters.” *Id.* Applicants respectfully traverse this rejection. It would be clear to one of ordinary skill in the art that such elements are in a special order and operably linked. It would furthermore be clear to one of ordinary skill in the art what the phrase “derived from” means in the context of particular promoters “derived from Cauliflower Mosaic Virus” or “derived from Subterranean Clover Virus.” A skilled artisan would know that the term “derived” refers to the fact that several variants of the 35S promoter have been used and are known in the art. Thus, Applicants respectfully request that this rejection of claim 71 under 35 U.S.C. § 112, para. 2, be withdrawn.

The Examiner also states claim 71 is indefinite “in its recitation of ‘A chimeric gene comprising . . . a leader sequence.’” It would be clear to one of ordinary skill in the art that a leader sequence is that sequence between the promoter and the start of the translation, and hence is clearly not translated. Thus, Applicants respectfully request that this rejection of claim 71 under 35 U.S.C. § 112, para. 2, be withdrawn.

With regard to claim 72, the specification explains that the T<sub>pssuAt</sub> is the transit peptide allowing chloroplast targeting, as described in Krebbers et al. (1998). The relevant order of a transit peptide is well known to one of ordinary skill in the art. It would be clear to one of ordinary skill in the art that this is upstream of the coding sequence. Thus, Applicants respectfully request that this rejection of claim 72 under 35 U.S.C. § 112, para. 2, be withdrawn.

Regarding claim 73, a skilled artisan would know that a transcript “termination” region is located downstream of the coding sequence so as to be able to terminate the transcript. Consequently, Applicants respectfully request that this rejection of claim 73 under 35 U.S.C. § 112, para. 2, be withdrawn.

Claim 74 has been amended; thus, Examiner’s rejection of claim 74 under 35 U.S.C. § 112, para. 2, has been rendered moot.

With regard to claim 75, it would be clear to one of ordinary skill in the art that chimeric genes comprise promoters. Thus, Applicants respectfully request that this rejection of claim 75 under 35 U.S.C. § 112, para. 2, be withdrawn.

The Examiner furthermore alleges that claim 75 is indefinite in its recitation of “derived” and “how the toxic fragments or hybrids derived from a Cry1F protein differ from the Cry1F protein.” (Paper No. 104, page 9.) Applicants submit that it is clear to one of ordinary skill in the art that a toxic fragment differs from Cry1F by being a toxic fragment rather than the entire protoxin and that the hybrids differ from Cry1F by having part of another Cry protein. Several Cry1F hybrids have been described in the prior art. *See, e.g.*, specification, page 18, line 8, *et seq.* Thus, Applicants respectfully request that this rejection of claim 75 under 35 U.S.C. § 112, para. 2, be withdrawn.

Regarding claim 77, the Examiner states that it is unclear “which protein, of the many that can be encoded by any DNA, is the one intended.” (Paper No. 104, page 9.) Applicants have amended claim 77 to depend from only claims 57 and 58. Thus, Applicants submit that it would be clear to one of skill in the art which proteins are covered by claim 77, as they are the proteins covered in claims 57 and 58. Consequently, Applicants respectfully request that this rejection of claim 77 under 35 U.S.C. § 112, para. 2, be withdrawn.

Applicants have amended claim 78. Thus, the Examiner’s rejection of claim 78 under 35 U.S.C. § 112, para. 2, has been rendered moot.

Therefore, the Examiner’s rejections of claims 62, 64, 66, 68 and 71-78 under 35 U.S.C. § 112, para. 2, have been properly traversed or rendered moot.

### **Rejections under 35 U.S.C. § 102**

The Examiner rejected claims 57-58, 63-70, 74 and 76-77 under 35 U.S.C. § 102(e) as allegedly being anticipated by Baum *et al.*, U.S. Patent No. 6,593,293 (“Baum”), taken with the evidence of Dalta *et al.*, BioTechnol. Ann. Rev. 3:269-296 (1997). In particular, it is the Examiner’s position that

Baum et al teach a nucleic acid, SEQ ID NO: 1, that encodes the instant SEQ ID NO:2. Baum et al also teach the expression of the DNA in plants, including corn and cotton, in chimeric gene constructs behind plant promoters including the CAMV 35S, the FMV 35S, mannopine synthase . . . Dalta et al teach that the mannopine synthase promoter is a wound-inducible promoter (Table 1).

(Paper No. 104, pages 10-11.) Applicants respectfully traverse this rejection.

Applicants assert that anticipation can be established only by a single reference that discloses each and every element of the claimed invention. *See Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1270 (Fed. Cir. 1984); M.P.E.P. § 2131 at 2100-73 (8<sup>th</sup> ed., Rev. No. 2). If a single element required by the claim is missing in the reference, there can be no anticipation. *See Structural Rubber*, 749 F.2d at 707, 223 U.S.P.Q. at 1271-72.

Applicants submit that Baum does not disclose each and every element required by 57-58, 63-70, 74 and 76-77. Independent claims 57 and 58, as amended, are directed to truncated forms of SEQ ID NO: 2, which do not include the full length of SEQ ID NO: 2. Baum does not disclose a DNA sequence encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from amino acid position 1 to an amino acid position between amino acid position 625 and amino acid position 632. Baum also does not disclose a DNA sequence encoding a truncated insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from an amino acid position between amino acid position 1 and amino acid position 50 to amino acid position 632. Baum additionally does not disclose a chimeric gene comprising a 35S promoter derived from Cauliflower Mosaic Virus or a S7 promoter derived from Subterranean Clover Stunt Virus, a leader sequence from the chlorophyll a/b binding protein gene from Petunia; and the DNA sequence encoding an insecticidal Cry2Ae protein consisting of the amino acid sequence of the protein of SEQ ID NO: 2 from amino acid position 1 to an amino acid position between amino acid position 625 and amino acid position 632, or a DNA encoding the protein of SEQ ID NO: 2 or an insecticidally-effective fragment thereof. Furthermore, Baum does not disclose a cotton plant or seed comprising a first chimeric gene encoding the protein of SEQ ID NO: 2 or an insecticidally-

effective fragment thereof, and a second chimeric gene encoding an insecticidal protein selected from: a Cry1F protein, toxic fragments or hybrids derived from a Cry1F protein, a Cry1Ac protein, or a VIP3Aa protein or a toxic fragment thereof.

Accordingly, Applicants submit that any alleged argument of anticipation has been effectively rebutted because Baum does not disclose each and every element of the claimed invention. Consequently, Applicants respectfully request that the rejection under 35 U.S.C. § 102(e) be withdrawn.

**Rejections under 35 U.S.C. § 103**

The Examiner rejected claim 71 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Baum in view of Meulewaeter *et al.*, U.S. Patent No. 6,294,711 (“Meulewaeter”). In particular, it is the Examiner’s position that

Baum et al do not disclose a chimeric gene construct comprising the Petunia chlorophyll a/b leader sequence. . . . it would have been obvious to one of ordinary skill in the art to modify the chimeric gene construct taught by Baum et al, to use the Petunia chlorophyll a/b leader sequence as described in Meulewaeter et al.

(Paper No. 104, page 11.) The Examiner also rejected claim 72 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Baum in view of Meulewaeter and further in view of Corbin *et al.*, U.S. Patent No. 6,489,542. In particular, it is the Examiner’s position that

Baum et al in view of Meulewaeter do not disclose use of DNA encoding the TpssuAt transit peptide in the construct.

Corbin et al teach a DNA encoding the TpssuAt transit peptide operably linked in constructs encoding a Cry protein (column 47, lines 11-37).

(Paper No. 104, page 20.) The Examiner also rejected claim 73 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Baum in view of Meulewaeter and further in view of Mettler *et al.*, U.S. Patent No. 6,114,608. In particular, it is the Examiner’s position that

Baum et al in view of Meulewaeter et al do not disclose use of the CaMV 3’ termination and polyadenylation region in the construct.

Mettler et al teach the CaMV 3' termination and polyadenylation region operably linked in constructs encoding a Cry protein (column 8, lines 11-17).

(Paper No. 104, page 13.) The Examiner also rejected claims 75 and 78 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Baum in view of Malvar *et al.*, U.S. Patent No. 6,156,573. In particular, it is the Examiner's position that

Baum et al do not disclose cotton plants also transformed with a chimeric gene encoding aCry1A-Cry1F hybrid protein.

Malvar et al teach plants transformed with chimeric gene encoding aCry1A-Cry1F hybrid protein and a second DNA encoding a Cry protein (column 8, lines 55-67).

(Paper No. 104, page 13.) Applicants respectfully traverse these rejections of claims 71, 72, 73, 75 and 78.

Applicants assert that in order to establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations. See M.P.E.P. § 2143.03 at 2100-133 (8<sup>th</sup> ed., Rev. No. 2). Applicants submit that the present invention is nonobvious over the art because the references cited by the Examiner do not teach or suggest Applicant's *claimed inventive combination*. See *Smith Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356 (Fed. Cir. 1999) (“[T]here is no basis for concluding that an invention would have been obvious solely because it is a combination of elements that were known in the art at the time of the invention.”) (citation omitted). Further, Applicants point out that a statement that modifications of the prior art to meet the claimed invention “would have been obvious to one of ordinary skill in the art” because the references teach that all aspects of the claimed invention were individually known in the art is *not* sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the references. See *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) *citing* *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1544 (“To imbue one of ordinary skill in the art with knowledge of the invention . . . when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of hindsight syndrome . . .”).



Applicants submit that the Examiner has not provided any objective reason to combine the cited references for each of the obviousness rejections of claims 71, 72, 73, 75 and 78. Accordingly, Applicants submit that the Examiner has not established a *prima facie* case of obviousness and, therefore, Applicants have rebutted the Examiner's rejections of claims 71, 72, 73, 75 and 78 based on obviousness. Consequently, Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn.

### **Other Matters**

Applicants note that an error was made in Applicants' argument in the Response to Office Action Restriction Requirement filed on November 12, 2003. Applicants stated that "[a]dditionally, SEQ ID NOS: 7 and 9 correspond to the DNA sequences for the same protein with one being from cotton and the other being from corn and would not be burdensome to search as they are within the scope of the protein of SEQ ID NO: 8." (Response to Office Action Restriction Requirement, filed November 12, 2003, page 2.) In this statement, Applicants incorrectly stated that one DNA is "from" cotton and that one DNA is "from" corn. (*Id.*) The correct statement is that one DNA is "for" cotton and that one DNA is "for" corn. Hence, the above-mentioned statement in the Response to Office Action Restriction Requirement filed on November 12, 2003 should properly read: "[a]dditionally, SEQ ID NOS: 7 and 9 correspond to the DNA sequences for the same protein with one being for cotton and the other being for corn and would not be burdensome to search as they are within the scope of the protein of SEQ ID NO: 8."

**CONCLUSION**

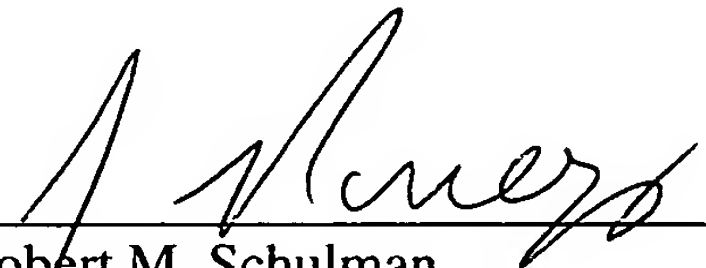
Applicants respectfully request entry of the above claim amendments.

All of the stated grounds of objection and rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

In view of the above claim amendments and remarks, early notification of a favorable consideration is respectfully requested. The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-0206.

Respectfully submitted,

Dated: 8/24/04

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